

CLAIMS

- 1 1. *(currently amended)* A computer system comprising:
2 a simulator including:
3 a virtual-failure event selector providing for selecting a virtual-
4 failure event corresponding to a real-failure event that applies to a
5 real computer cluster, and
6 a virtual-cluster generator for generating a first virtual cluster in
7 a virtual pre-failure configuration corresponding to a real pre-failure
8 configuration of said real computer cluster, and for, in response to
9 selection of said virtual-failure event, generating a second virtual
10 cluster in a virtual post-failure configuration corresponding to a real
11 post-failure configuration ~~of that~~ said real computer cluster would
12 assume in response to said real-failure event.
- 1 2. *(currently amended)* A system as recited in Claim 1 wherein,
2 in said real pre-failure configuration, said real computer cluster
3 runs a software application ~~on~~ on a first computer of said real
4 computer cluster and not on a second computer of said real
5 computer cluster, and wherein, in said real post-failure
6 configuration, said real computer cluster runs said application on
7 said second computer but not on said first computer.
- 1 3. *(original)* A system as recited in Claim 1 further comprising
2 said real computer cluster, said real computer cluster including
3 profiling software for providing a descriptive profile of said real
4 computer cluster, said virtual-cluster generator generating said
5 virtual cluster in said pre-failure configuration using said
6 descriptive profile.

1 4. *(original)* A system as recited in Claim 3 wherein said real
2 computer cluster is connected to said simulator for providing said
3 descriptive profile thereto.

1 5. *(original)* A system as recited in Claim 2 wherein said
2 simulator further includes an evaluator for evaluating said virtual
3 cluster in its post-failure configuration.

1 6. *(original)* A system as recited in Claim 5 wherein said
2 simulator further includes a test sequencer, said test sequencer
3 selecting different virtual-failure events to be applied to said first
4 virtual cluster in said pre-failure configuration so as to result in
5 different post-failure configurations of said virtual cluster.

1 7. *(original)* A system as recited in Claim 6 wherein said
2 simulator further includes a statistical analyzer for statistically
3 analyzing evaluations of said different post-failure configurations of
4 said virtual cluster.

1 8. *(original)* A system as recited in Claim 7 wherein said test
2 sequencer automatically tests different pre-failure configurations of
3 said virtual cluster against different failure events, said statistical
4 analyzer providing a determination of optimum pre-failure
5 configuration by statistically analyzing evaluations of the resulting
6 post-failure configurations.

1 9. *(original)* A system as recited in Claim 8 wherein said
2 simulator is connected to said real computer cluster for providing
3 said determination thereto, said real computer cluster automatically
4 reconfiguring itself as a function of said determination.

- 1 10. (*currently amended*) A computer-implemented method
2 comprising:
3 a) generating a first virtual computer cluster in a virtual pre-
4 failure configuration that ~~can serve~~ serves as a model for a real
5 computer cluster in a pre-failure configuration that responds to
6 predetermined types of failures by reconfiguring to a real post-
7 failure configuration, said reconfiguring including migrating a real
8 application on one real computer of said real computer cluster to
9 another real computer of said real computer cluster;
10 b) selecting a sequence of at least one of said predetermined
11 types of failures; and
12 c) generating a second virtual computer cluster in a virtual post-
13 failure configuration that ~~can serve~~ serves as a model for said real
14 computer cluster in said real ~~post-failure~~ post-failure configuration.

1 11. (*original*) A method as recited in Claim 10 wherein steps a,
2 b, and c are iterated for different configurations of said real
3 computer cluster and for different sets of said predetermined
4 failure types, said method further comprising providing a
5 recommended configuration for said real computer cluster.

1 12. (*original*) A method as recited in Claim 10 further
2 comprising:
3 gathering profile information about said real cluster in said first
4 configuration, wherein said first virtual computer cluster is
5 generated using said profile information.

1 13. (*original*) A method as recited in Claim 12 wherein steps a,
2 b, and c are iterated for different configurations of said real
3 computer cluster and for different sets of said predetermined
4 failure types, said method further comprising providing a
5 recommended configuration for said real computer cluster.

1 14. (*original*) A method as recited in Claim 13 further
2 comprising:
3 transmitting said recommendation to said real computer cluster;
4 and
5 implementing said recommended configuration on said real
6 computer cluster.